

TYPICAL CHARACTERISTICS ON QSM-020-14-1-5-SFF

PMI MODEL NUMBER QSM-020-14-1-5-SFF IS A DC TO 20 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PEAFS3 HOUSING THAT CAN BE USED AS AN SMA CONNECTORIZED OR A SURFACE MOUNT COMPONENT.



January 09, 2026

Designed by:

Engineering PMI

Tested and Reported by:

V. Vasquez

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Product Feature

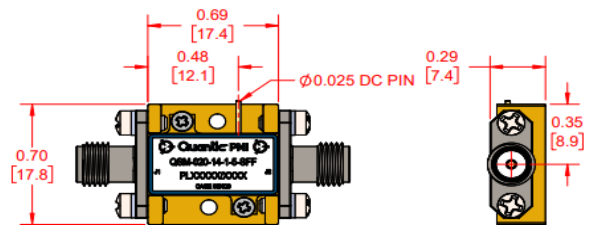
DESCRIPTION:
PMI MODEL NUMBER QSM-020-14-1-5-SFF IS A DC TO 20 GHz AMPLIFIER. THIS AMPLIFIER IS SUPPLIED IN OUR STANDARD PEAFS3 HOUSING THAT CAN BE USED AS AN SMA CONNECTORIZED OR A SURFACE MOUNT COMPONENT.

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	1/26/2008	
	A2	ECN # 26-0008	1/13/2009	

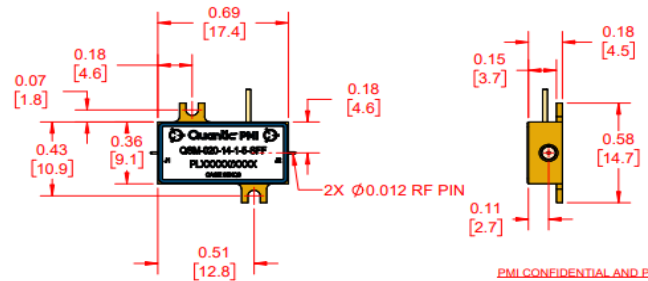
SPECIFICATIONS:

- FREQUENCY RANGE:..... 100 MHz TO 20 GHz
- GAIN:..... 14 dB TYP, 12.5 MIN
- GAIN FLATNESS:..... ±1 dB MAX
- NOISE FIGURE:..... 6.5 dB MAX
- OP1dB:..... +14 dBm MIN
- VSWR (INPUT/OUTPUT):..... 2:1 MAX
- DC VOLTAGE SUPPLY:..... +12 TO +15 VDC
- DC CURRENT DRAW:..... 100 mA MAX
- INPUT POWER:..... +18 dBm MAX
- CONNECTORS:..... SMA FEMALE
- FINISH:..... GOLD PLATED

HOUSING WITH CARRIER



HOUSING WITHOUT CARRIER (SURFACE MOUNT)



ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -55°C TO +85°C (OPERATING)
-65°C TO +125°C (STORAGE)
- HUMIDITY:..... MIL-STD-202, METHOD 103B COND. B
- SHOCK:..... MIL-STD-202, METHOD 213B COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

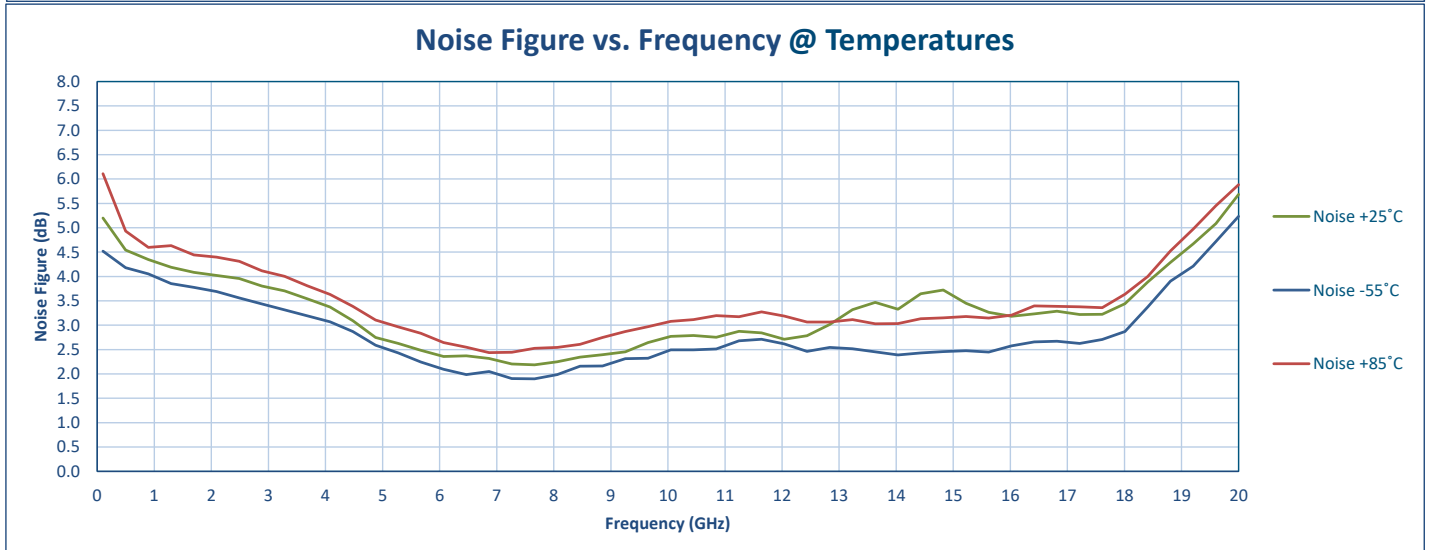
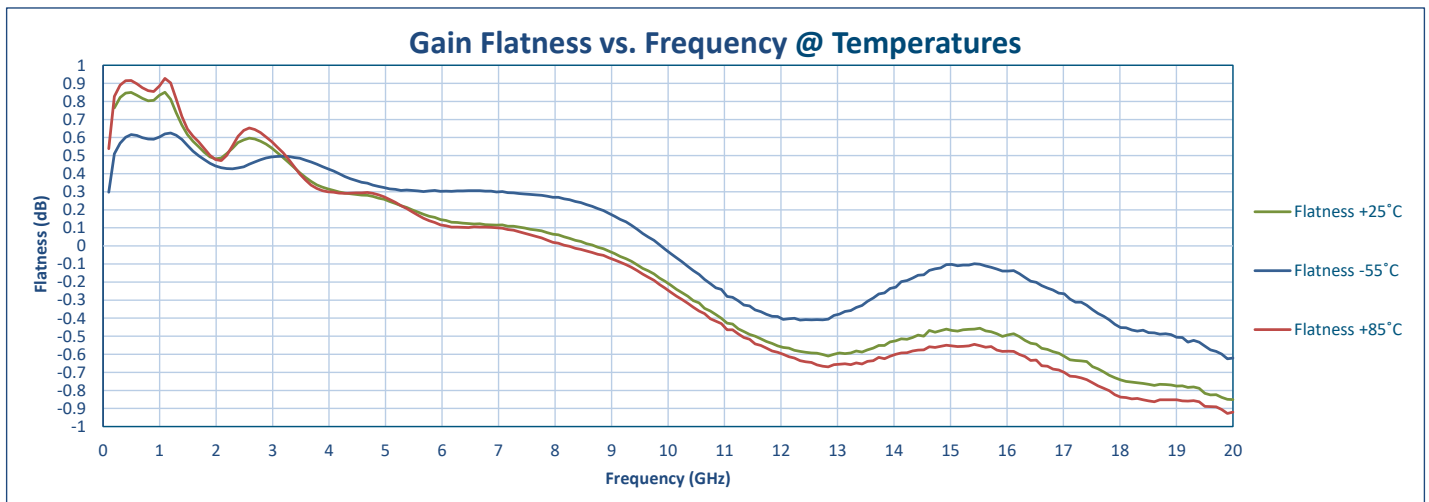
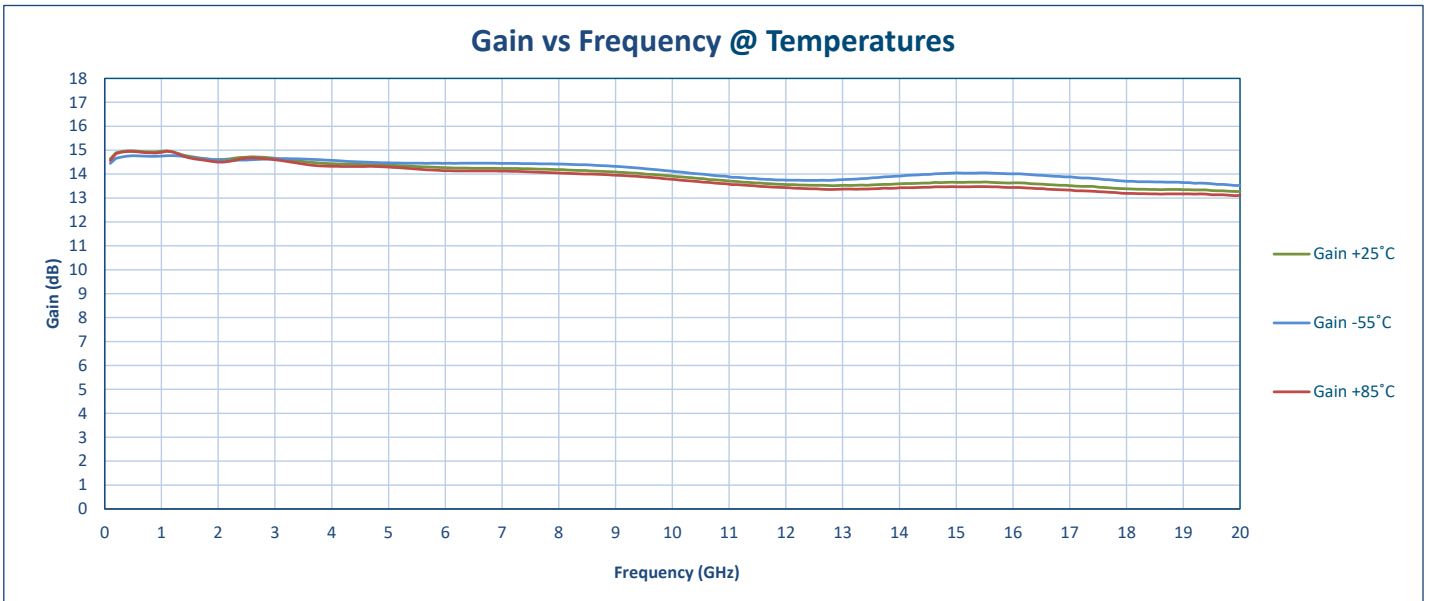
APPROVALS		DATE	TITLE	OUTLINE	
DESIGNED	B.W			QSM-020-14-1-5-SFF	
ISSUED				SIZE: B	SCALE: 2:1
				FSCM NO: 05XQ0	REV: A2
				QWG NO: 27050880	SHEET 1 OF 1



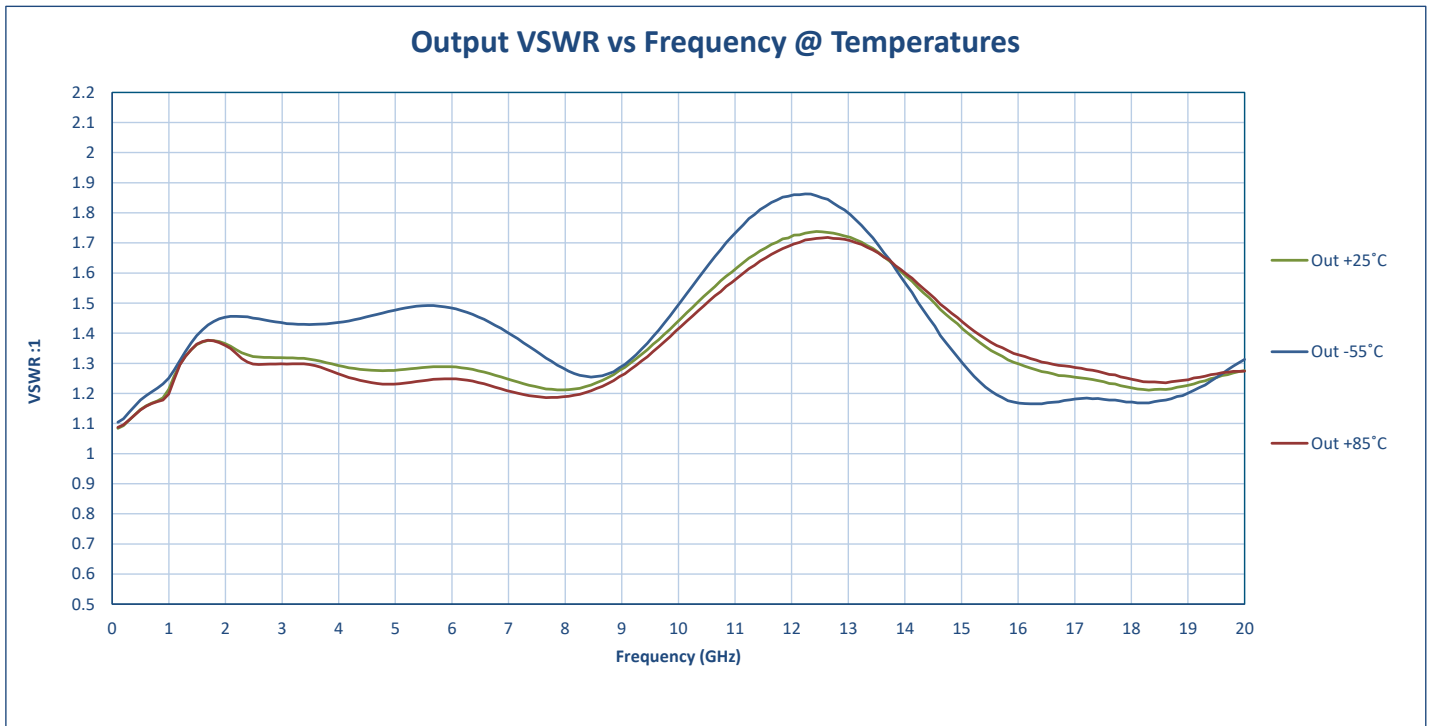
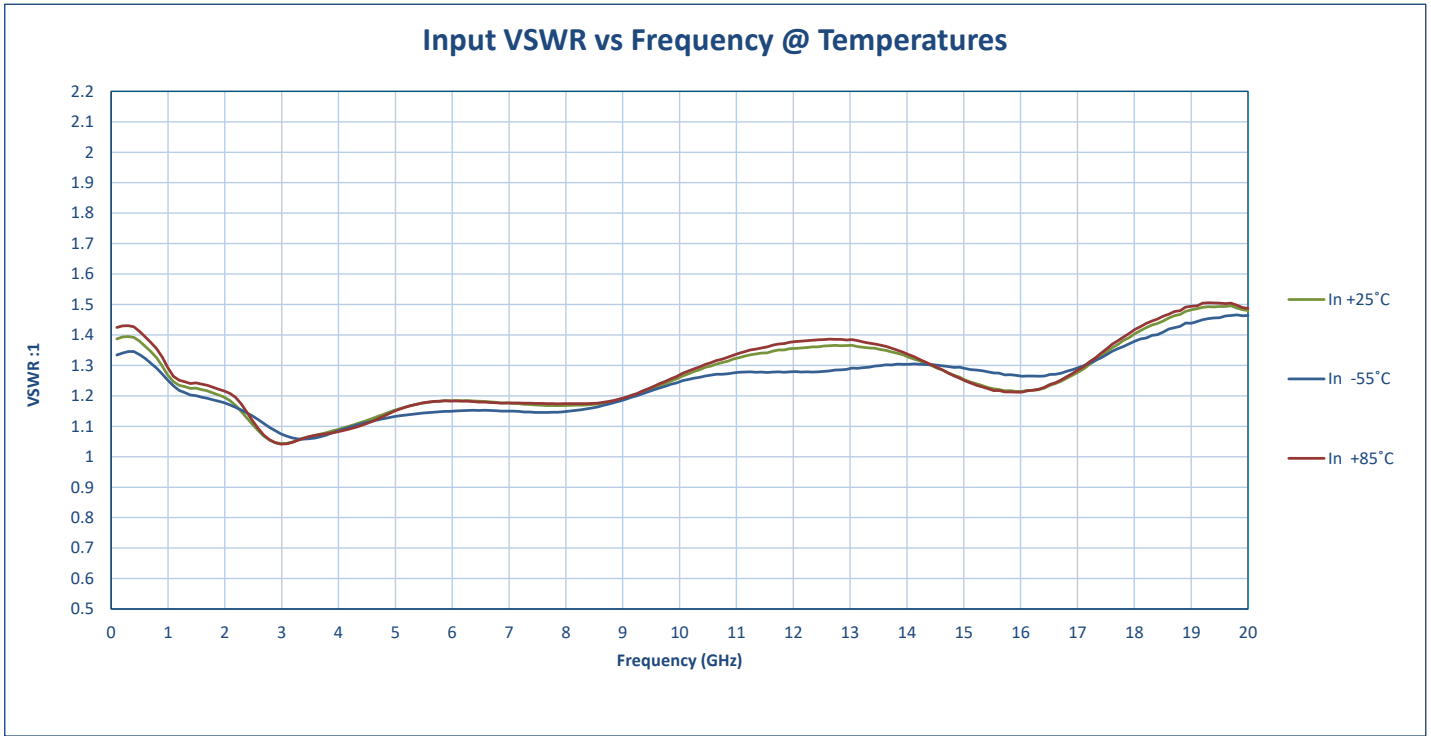
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Technical Specifications

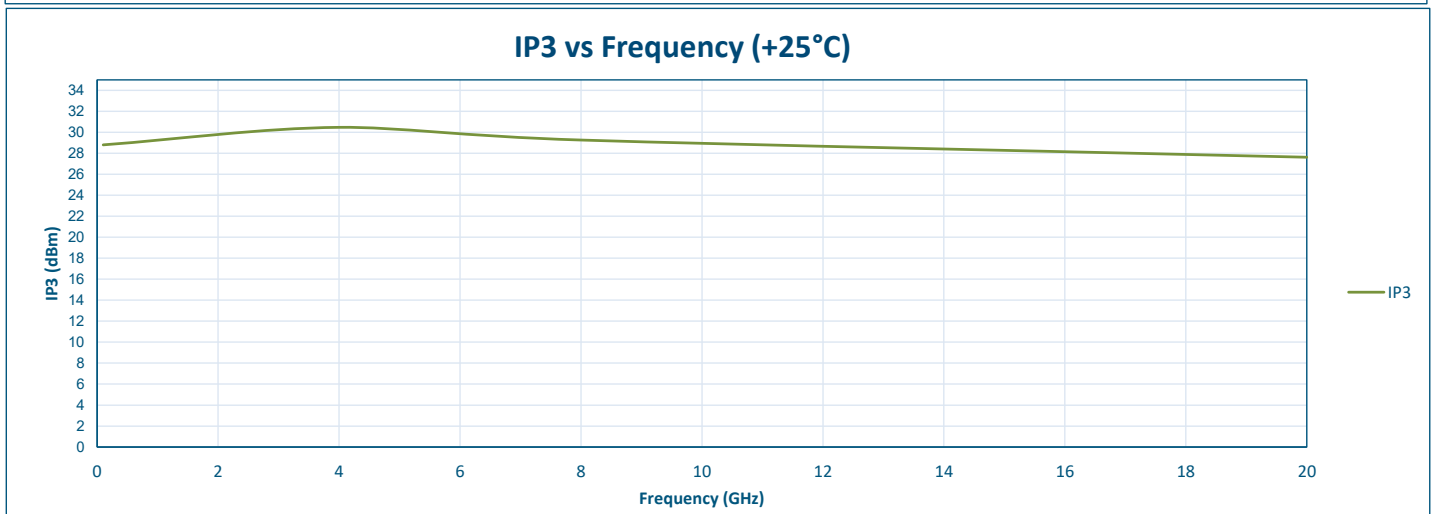
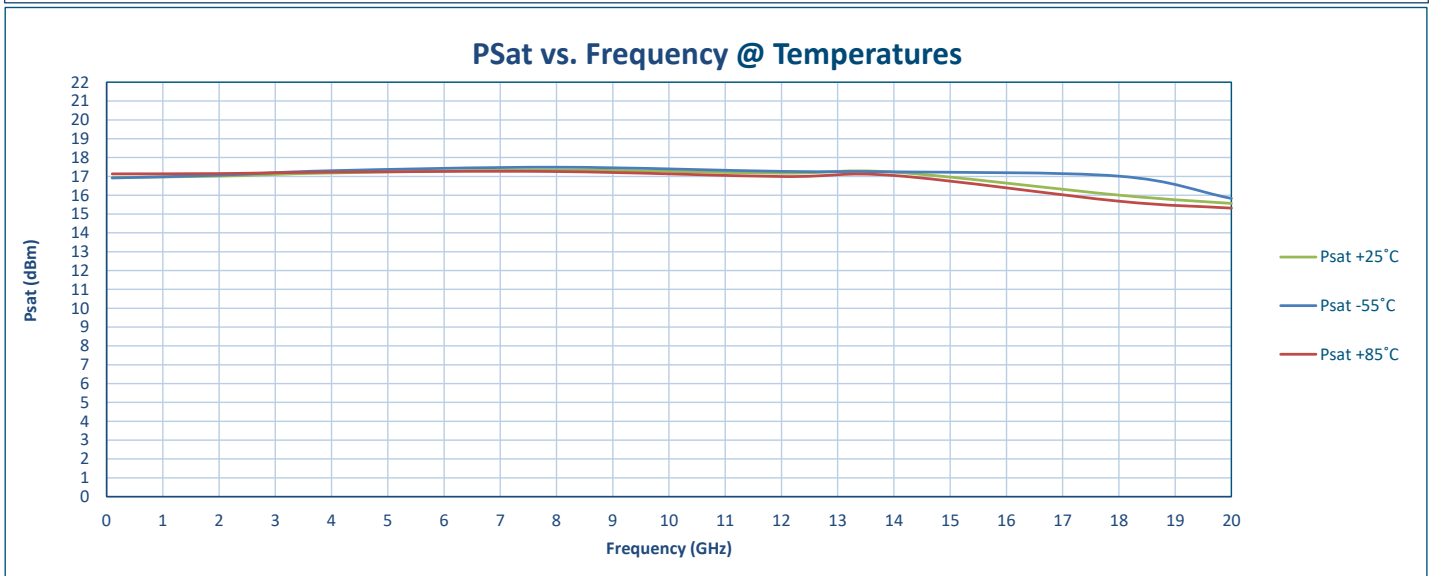
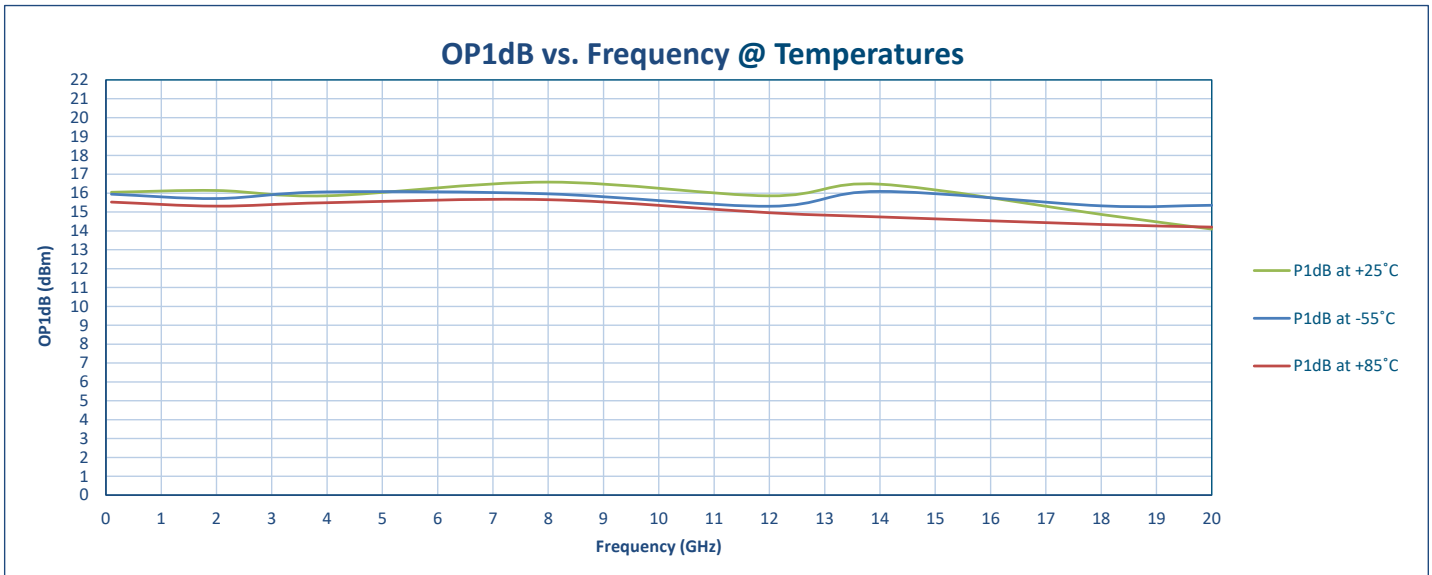
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			+25°C	-55°C	+85°C	
1	Frequency Range:	100 MHz to 20 GHz	100 MHz to 20 GHz	100 MHz to 20 GHz	100 MHz to 20 GHz	
2	Gain:	14dB Typ. 12.5 Min.	14.97 dB Max. 13.27 dB Min. See Graph	14.77 dB Max. 13.52 dB Min. See Graph	14.95 dB Max. 13.1 dB Min. See Graph	
3	Gain Flatness:	±1 dB Max.	±0.85 dB See Graph	±0.63 dB See Graph	±0.93 dB See Graph	
4	Noise Figure:	6.5 dB Max.	5.68 dB See Graph	5.23 dB See Graph	6.11 dB See Graph	
5	OP1dB:	+14 dBm Min.	14.1 dBm See Graph	15.3 dBm See Graph	14.2 dBm See Graph	
6	Psat:	N/A	15.57 dBm See Graph	15.83 dBm See Graph	15.31 dBm See Graph	
7	OIP3:	N/A	27.63 dBm See Graph			
8	Harmonics:	N/A	37.03 dBc @ -35 dBm Input Power			
9	Input Power:	+18 dBm Max.	+18 dBm See Graph	+18 dBm See Graph	+18 dBm See Graph	
10	VSWR Input/Output:	2.0:1 Max.	1.5:1 In 1.74:1 Out See Graph	1.47:1 In 1.86:1 Out See Graph	1.51:1 In 1.72:1 Out See Graph	
11	DC Supply:	+12 to 15 VDC @ 100 mA Max.	+12 to +15 VDC @ 92 mA	+12 to +15 VDC @ 81 mA	+12 to +15 VDC @ 96 mA	



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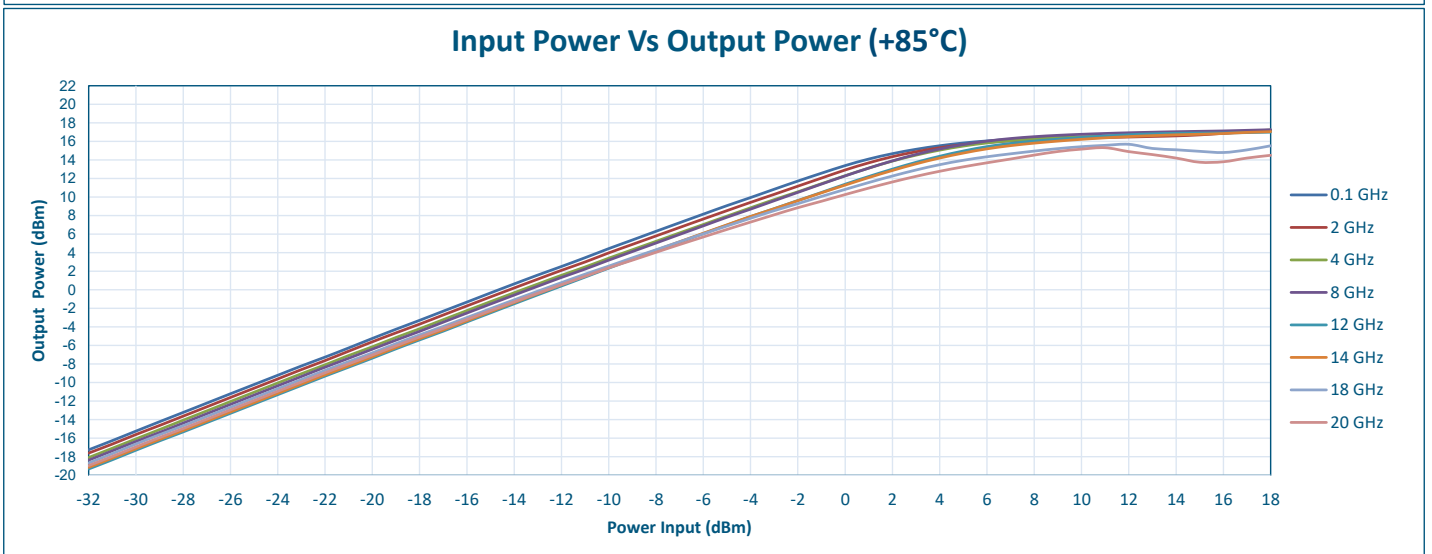
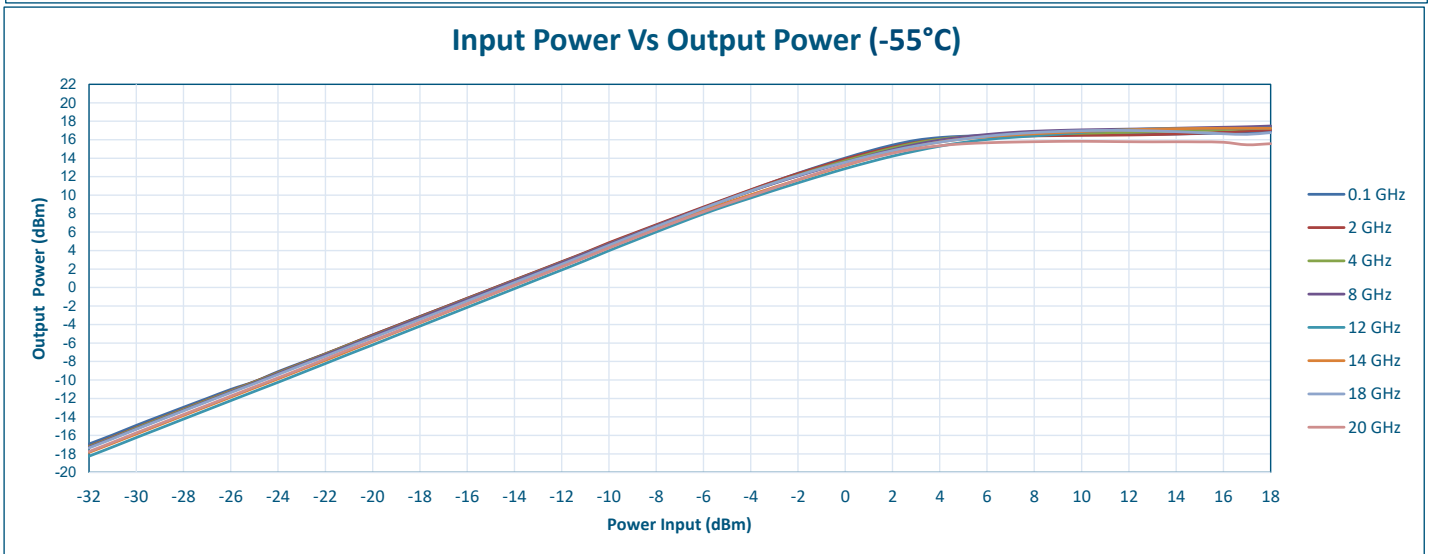
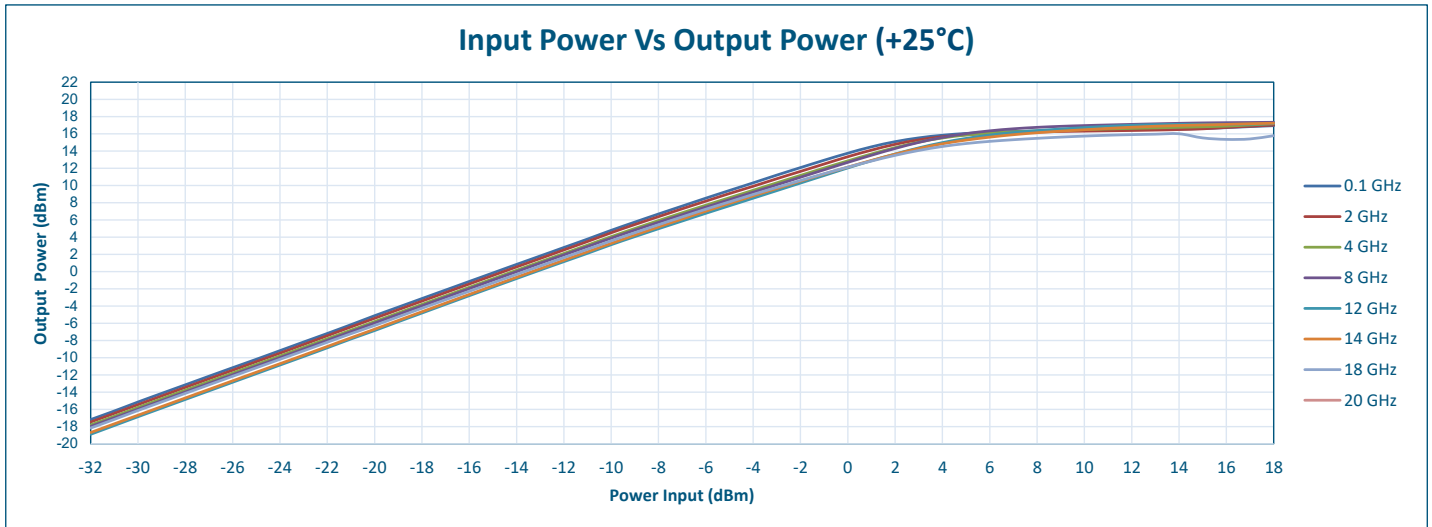


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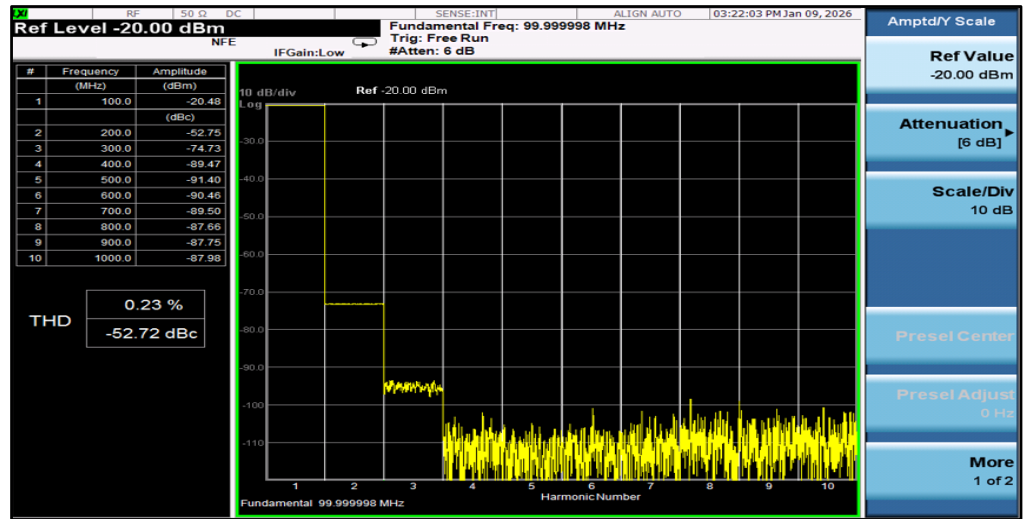


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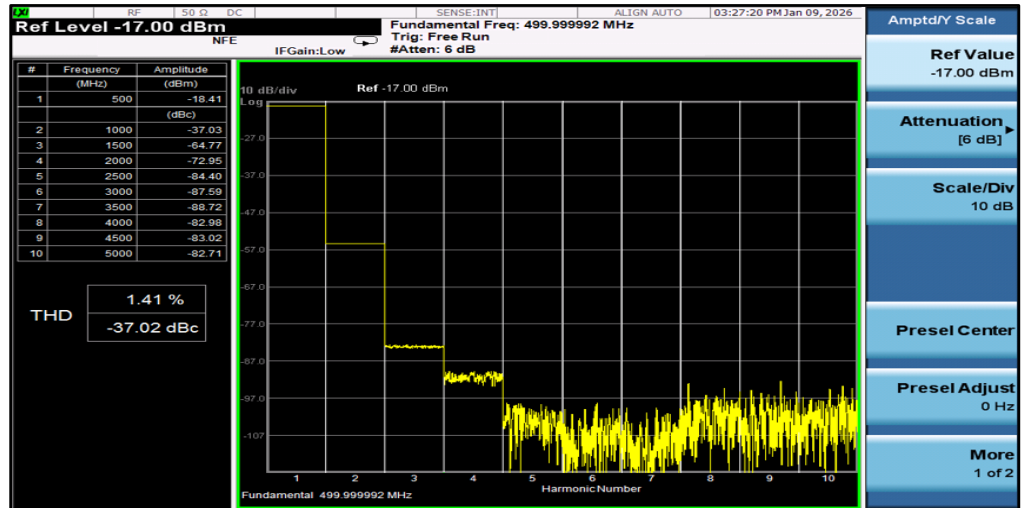
Harmonics

-35 dBm Input Power

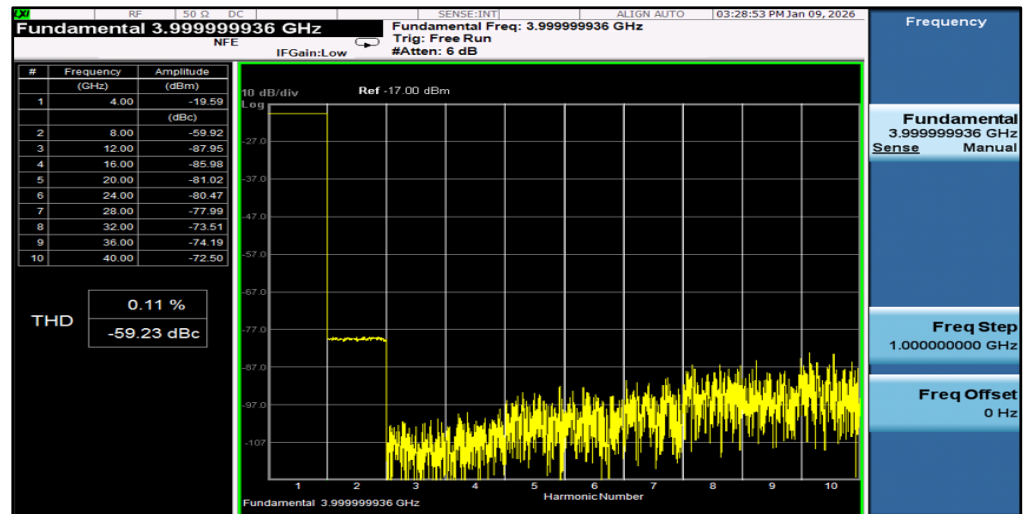
**Fundamental: 100 MHz
Second Harmonics: 200 MHz
Measured Value (52.75 dBc)**



**Fundamental: 500 MHz
Second Harmonics: 1 GHz
Measured Value (37.03 dBc)**



**Fundamental: 4 GHz
Second Harmonics: 8 GHz
Measured Value (59.92 dBc)**



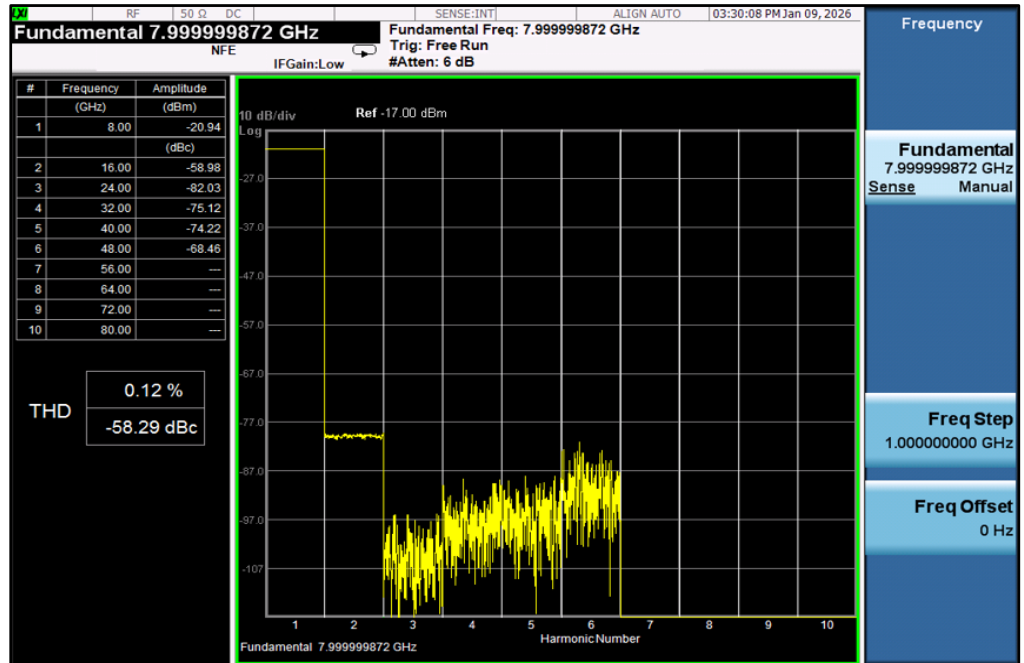


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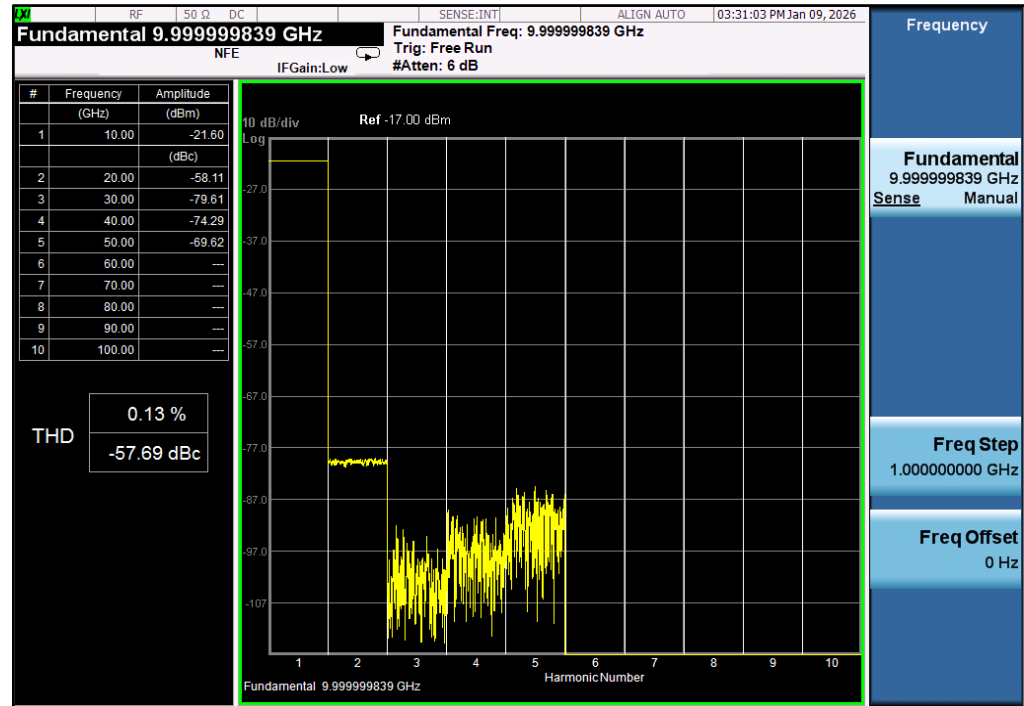
Harmonics

-35 dBm Input Power

**Fundamental: 8 GHz
Second Harmonics: 16 GHz
Measured Value (58.98 dBc)**



**Fundamental: 10 GHz
Second Harmonics: 20 GHz
Measured Value (58.11 dBc)**



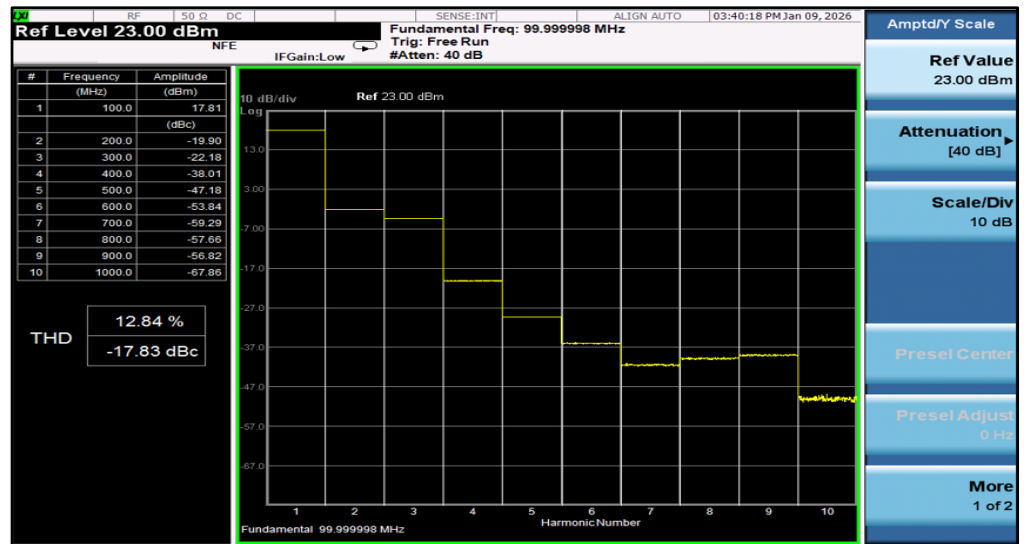


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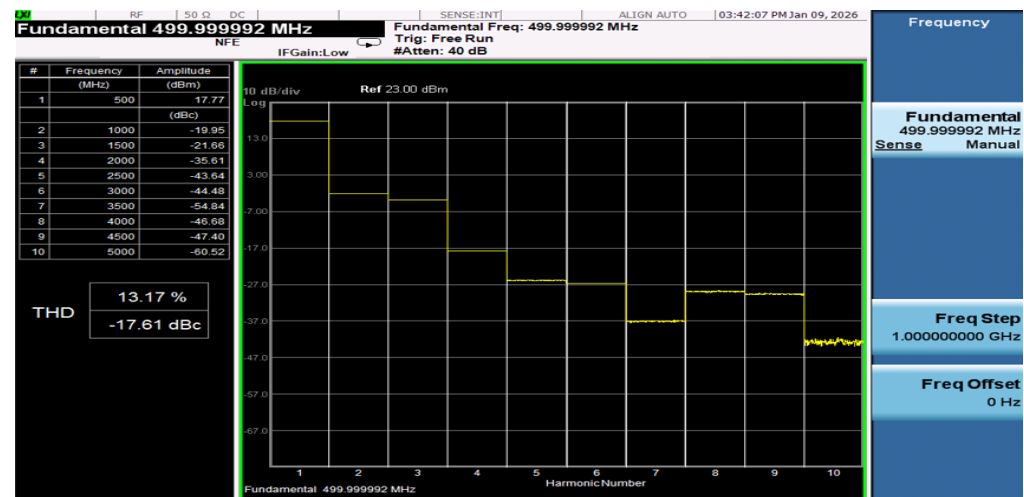
Harmonics

@ P1dB dBm

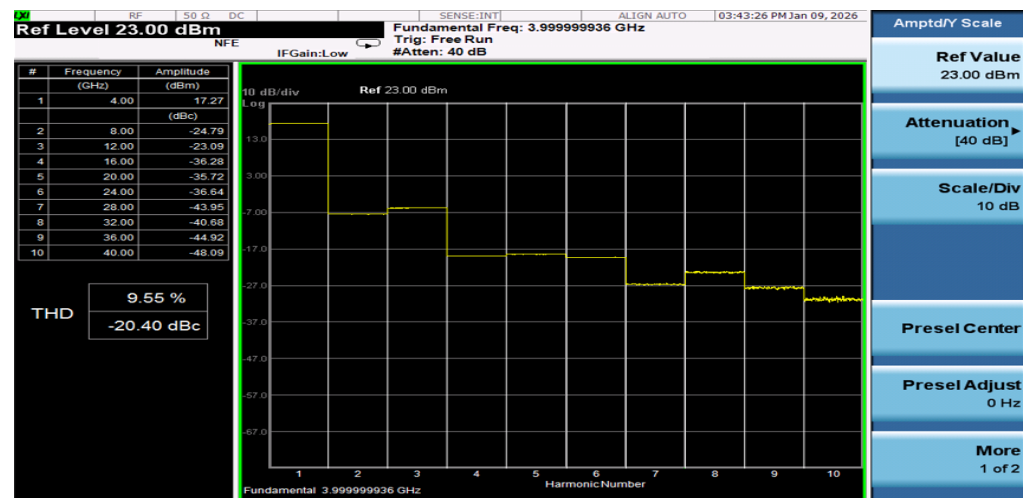
Fundamental: 100 MHz
Second Harmonics: 200 MHz
Measured Value (19.90 dBc)



Fundamental: 500 MHz
Second Harmonics: 1 GHz
Measured Value (19.95 dBc)



Fundamental: 4 GHz
Second Harmonics: 8 GHz
Measured Value (24.79 dBc)



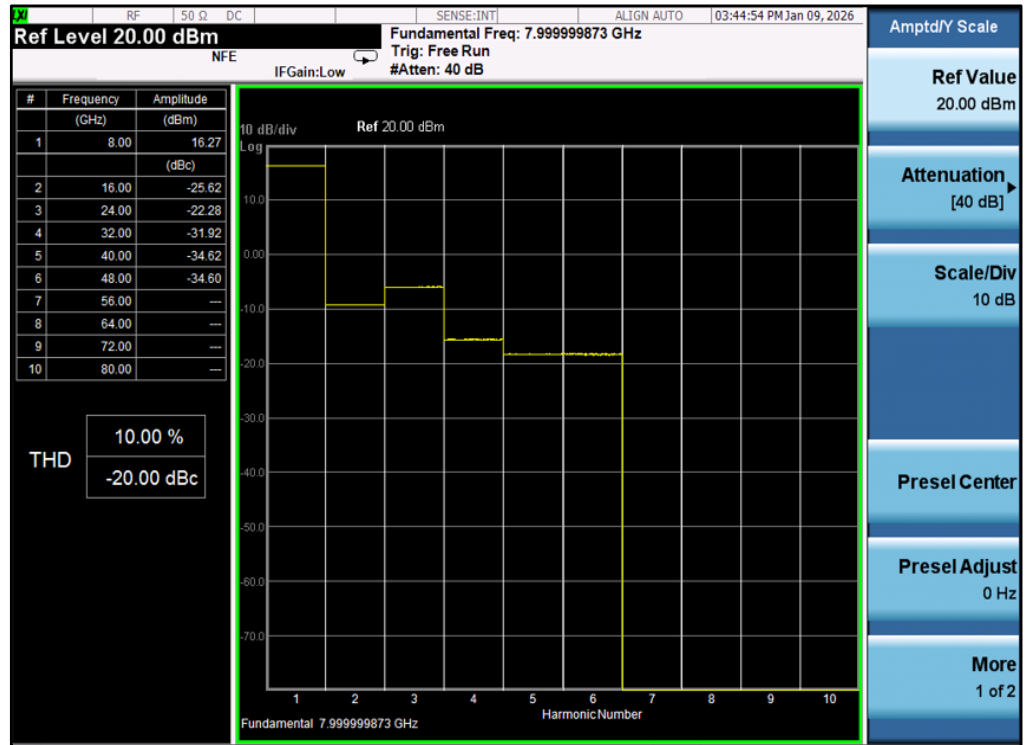


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Harmonics

@ P1dB dBm

Fundamental: 8 GHz
Second Harmonics: 16 GHz
Measured Value (25.62 dBc)



Fundamental: 10 GHz
Second Harmonics: 20 GHz
Measured Value (24.08 dBc)

